ACCESS REPORTS AND QUERIES

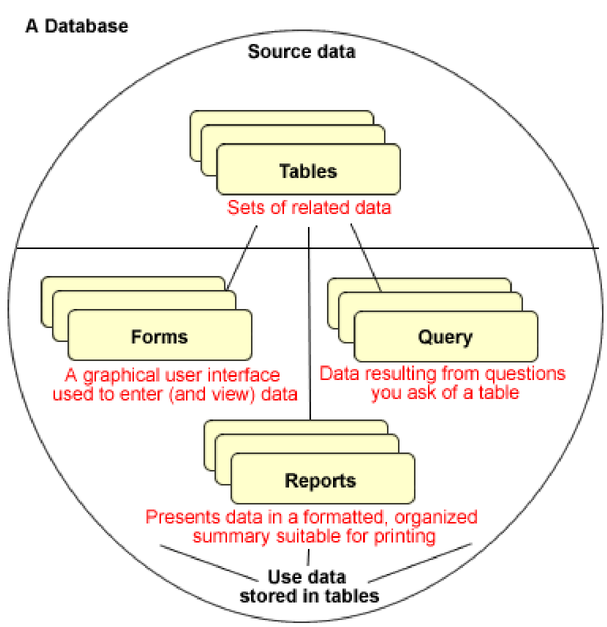
Description: In this session, you'll learn how to create new reports and queries in your Access database. Using Access 2007, you'll learn how the parts and pieces of a database work in concert with each other: tables, forms, reports, and queries. We'll explore the relationships between tables, and how you can capture those relationships in queries. Finally, we'll create and format reports to present and summarize your data. In this session you'll learn how to:

- View the relationships between sets of data (tables)
- Create and save simple, single table reports
- Format reports so they're easy to read
- Sort and group report data
- Add totals and subtotals to your reports
- Create and save queries to report on data from more than one table
- Modify the relationships (joins) between tables in a query to return a more limited result set
- Create queries based on criteria that filter your data
- Add a calculated field to a query and report
- Build parameter queries that prompt your users for information

At the end of this session, you'll be able to create professional reports based on an existing Access database or accessible database such as SQL Server.

PARTS OF AN ACCESS DATABASE

A Microsoft Access database is made up of database objects including: **tables, forms, queries** and **reports.** All database objects are stored in the same Access database file.



WHAT IS A TABLE?

Data is stored in one or more **tables**. Separate tables are usually created for specific topics, such as products or suppliers. Tables can be related to one another to access the different types of information. Because data is stored only once -- you probably would not save the same information in two different tables -- your database becomes more efficient.

The columns and rows in an Access table resemble an Excel spreadsheet. Tables organize data into columns (called **fields**) and rows (called **records**). A record is comprised of one or more fields, depending on the number of fields defined to the table. Individual fields in an address book table might consist of name, street address, city, state, zip code, and phone number. A single record is an entry that uses all these fields, such as a colleague's contact information.

WHAT IS A QUERY?

A **query** lets you find and retrieve information from one or more tables based on a set of search conditions you define (e.g., certain fields in one or more tables). The results can be displayed in a manner of your choosing. Queries can be created using a wizard or developed from scratch in the Query Design view.

WHAT IS A REPORT?

A **report** is an effective way to analyze and present data in a printed format using a specific layout. You have control over the size and appearance of information printed on the report, similar to formatting you perform in a Microsoft Word document.

VIEWING DATABASE RELATIONSHIPS

Click the Database Tools tab then choose Relationships (in the Show/Hide group) to display the relationships in your database.

CREATING A SIMPLE ACCESS REPORT

Access reports let users view data without needing to know how the database tables are designed or related. A report doesn't need to include all of a table's fields, so the report may omit fields that aren't relevant for the readers. A report can include data from multiple tables. There are several ways to create reports.

CREATE A REPORT BY USING THE REPORT TOOL

When you run the Report tool, it automatically uses all the fields in your data source. It also uses the tabular layout.

1. In the Navigation Pane, click the table or query you want to use as a data source.
2. On the **Create** tab, in the **Reports** group, click **Report**.

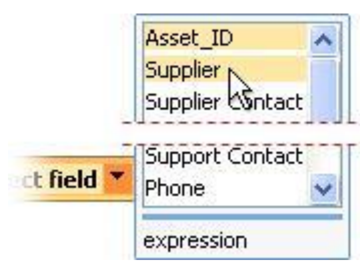
The Report tool creates the report and opens it in Layout view.

3. Press CTRL+S to save the report, and in the **Save As** dialog box, enter a name for the report and click **OK**.

GROUP AND SORT A REPORT

Grouping and sorting can make your reports easier to read and understand. You can also sort on any of the fields in a group.

1. On the **Format** tab, in the **Grouping & Totals** group, click **Group & Sort**. The **Group, Sort, and Total** pane appears below the report.
2. Click **Add a group**, and on the list that appears, click the field by which you want to group your data.
3. Repeat as needed. You can add up to 10 levels of grouping to a report.
4. To add a sort, click the group you want to sort, click **Add a sort**, and on the list that appears, click the field you want to use.



Facts to remember about groups:

You can define up to 10 grouping levels in a report.

The first item in the list defines the main data grouping. Subsequent items create groups within that main grouping.

ADD SUBTOTALS AND GRAND TOTALS TO A REPORT

1. In the **Group, Sort, and Total** pane, click the group to which you want to add a total, and then click **More**.

The group expands and displays a series of lists.

2. Click the arrow next to the list that contains **totaled**. The **Total** dialog box appears.
3. From the **Total On** list, select the field you want to calculate, such as **Cost**, for example, and make sure the **Type** list contains the type of calculation you want to use, such as **Sum**.
4. To display a grand total, select the **Show Grand Total** check box. If needed, you can also select the **Show group totals as % of Grand Total** and **Show in group footers** check boxes.
5. Click anywhere outside the dialog then press CTRL+S to save your changes.

If you select all the options described in step 4, each group footer shows a percentage and a subtotal. The grand total is located at the end of the report.

6. Press CTRL+S to save your changes.

USE DESIGN VIEW TO ADD CONTROLS TO A REPORT

1. Right-click the document tab for the report and click **Design View**.
2. On the **Design** tab, in the **Controls** group, click the desired control.
3. Click the section of the report that will contain the new control, and then click and drag to draw the new control.
4. As needed, enter text in the label associated with the control.
5. Repeat as needed, and optionally switch back to Layout view to see your results.

CREATING A REPORT FROM SCRATCH

Note When you create a report from scratch, you can use only tables as a data source.

1. Click the **Create** tab, and in the **Reports** group, click **Blank Report**.

2. In the **Field List** task pane, click **Show all tables**, and then click the plus sign next to the table you want to use.

3. Drag the fields from the task pane to the blank report. As you drag each field, a vertical bar shows you where the field will be placed.

4. Optionally, on the **Format** tab, in the **Autoformat** group, click a format.

5. Optionally, change from the tabular layout to the stacked layout. To do so, press and hold SHIFT, click each field header, click the **Arrange** tab, and in the **Control Layout** group, click **Stacked**.

USING THE REPORT WIZARD

1. On the **Create** tab, in the **Reports** group, click **Report Wizard**.

2. On the first screen of the wizard, open the **Tables/Queries** list and select a data source.

You can use multiple data sources, such as two tables, but those sources must participate in a relationship, either directly with each other, or indirectly through intermediate tables.

3. Use the arrow keys (**>**) or (**>>**) to move fields from the **Available Fields** pane to the **Selected Fields** pane.

4. On the second screen, use the arrow keys (**>** or **<**) to group your data.

5. On the third screen, use the sort lists to define sort orders for as many as four fields.

6. On the fourth screen, select an option under **Layout**, and under **Orientation**, select **Portrait** or **Landscape**.

7. On the fifth screen, choose a pre-made style, such as **Access 2007**, or **Civic**.

8. On the sixth screen, in the **What title do you want for your report** box, enter a name, and then click **Finish**. The report opens in Print Preview mode.

QUERY A SINGLE TABLE

1. Click the **Create** tab, and in the **Other** group, click **Query Design**.

2. In the **Show Table** dialog box, click the table you want to use, click **Add**, and then click **Close** to close the dialog box.

3. In the table, double-click the fields you want to use in the query. Notice that the fields appear in the grid at the bottom of the designer. You can also drag fields from the table to an empty column in the grid.

4. On the **Design** tab, in the **Results** group, click **Run**. The query loads the data into a datasheet.

5. Press CTRL+S to save the query, and in the **Save As** dialog box, enter a name.

MAKE A QUERY ASK FOR INPUT

1. Open the query in Design view.
2. In the design grid (the lower part of the designer), click the **Criteria** row in the column to which you want to add your criteria. For example, you'd add **BETWEEN [Start Date] AND [End Date]** to the **Criteria** row of a Date/Time field.
3. Press CTRL+S to save your changes.
4. On the **Design** tab, in the **Results** group, click **Run**.
5. In the first **Enter Parameter Value** dialog box, enter a starting value, such as **5/1/2012** and click **OK**.
6. In the second **Enter Parameter Value** dialog box, enter an ending value, such as **6/30/2014** and click **OK**.

ADD A CALCULATED FIELD TO A QUERY

1. Open the query in Design view.
2. In the design grid, go to the first blank column, click the **Field** row, and enter your formula or expression. For example: **Retire_Date: DateAdd('yyyy',5,[Acquired_Date])**. See the links earlier in this card for more examples of expressions.
3. Press CTRL+S to save your changes.
4. On the **Design** tab, in the **Results** group, click **Run**.

CREATE A QUERY FROM MULTIPLE TABLES

NOTE: The tables you use in this type of query must participate in a relationship, either directly or indirectly.

1. Click the **Create** tab, and in the **Other** group, click **Query Wizard**.
2. On the first page of the wizard, make sure **Simple Query Wizard** is selected, and then click **OK**.
3. Open the **Tables/Queries** list and click the first table you want to use.
4. In the **Available Fields** pane, click the first field you want to use in the query, then click the right-arrow button to move the field to the **Selected Fields** pane.
5. Repeat step 4 to add any other fields from that table.
6. Open the **Tables/Queries** list and select the second table you want to use.
7. Repeat step 4 to add fields from the second table to the query, then click **Next**.
8. In the **What title do you want for your query** text box, enter a name for the query, then click **Finish**.

USE A TEXT EXPRESSION TO CONCATENATE FIELDS

1. Open your query in Design view.
2. Locate the first blank column in the design grid, and in the **Field** row, enter your text expression. For example: **Contact: [Support.Support_First_Name] & " " & [Support.Support_Last_Name]**. You can copy and paste such strings into the designer.
3. Press CTRL+S to save your changes.
4. Run your query.